Amendment to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently amended) A method of implementing a two-dimensional inverse discrete cosine transform, comprising:

executing first and second one-dimensional inverse discrete cosine transforming functions in first and second separate inverse discrete cosine transforming calculators, each of the first and second functions being controlled to operate on a matrix of coefficients with both of said first and second inverse discrete cosine transforming calculators operating simultaneously in a row direction at a first time, and with both of said first and second inverse discrete cosine transforming calculators operating simultaneously in a column direction at a second time.

2-3. (Cancelled)

4. (Previously presented) The method of claim 1 further comprising a sequencer which determines which direction each function operates in for a given matrix.

5. (Previously presented) The method of claim 1 further comprising an address generator which generates an address for each coefficient in the matrix.

6. (Previously presented) The method of claim 1 wherein the functions concurrently executed in the same direction on two different matrices of coefficients.

7. (Original) The method of claim 1 in which the functions are concurrently executed in the same direction, the functions switching periodically and concurrently to the other direction.

8. (Previously presented) A storage medium bearing a machine-readable program capable of causing a machine to:

execute two, one-dimensional inverse discrete cosine transforming functions in first and second inverse discrete cosine calculators, each of the functions being controlled to operate on a matrix of coefficients with both of said first and second inverse discrete cosine calculators operating simultaneously in the row direction at a first time, and with both of said first and second inverse discrete cosine calculators operating simultaneously in the column direction at a second time subsequent to said first time.

9-10. (Cancelled)

11. (Original) The medium of claim 8 in which a sequencer determines which direction each function operates in for a given matrix.

12. (Original) The medium of claim 8 in which an address generator generates an address for each coefficient in the matrix.

13. (Original) The medium of claim 8 in which the functions are concurrently executed in the same direction on two different matrices of coefficients.

14. (Original) The medium of claim 8 in which the functions are concurrently executed in the same direction, the functions switching periodically and concurrently to the other direction.

15. (Currently Amended) A method of implementing a two-dimensional inverse discrete cosine transform, comprising:

first executing a first one-dimensional inverse discrete cosine transforming function on a first inverse discrete cosine

calculator, in a row direction on a first matrix of coefficients to produce a first matrix of intermediate results;

second, after said first executing, on ~~a second~~ said first inverse discrete cosine calculator, executing a second one-dimensional inverse discrete cosine transform in a column direction on a second matrix of coefficients to produce another matrix of intermediate results;

on ~~said first~~ a second inverse discrete cosine calculator, executing a third one-dimensional inverse discrete cosine transforming function in said column direction on the first matrix of intermediate results concurrent with said second executing in the column direction on said second matrix of coefficients; and

periodically switching said executing between the row and column directions.

16-18. (Cancelled)

19. (Currently Amended) A storage medium bearing a machine-readable program capable of causing a machine to:

execute a first one-dimensional inverse discrete cosine transforming function, where the first function executes in a

row direction on a first matrix of coefficients, producing a matrix of intermediate results;

execute a ~~third~~ second one dimensional inverse discrete cosine transforming function in a column direction on a second matrix of coefficients;

execute a third one-dimensional inverse discrete cosine transforming function, where the second function executes in said column direction on the matrix of intermediate results concurrent with the execute a second function on the second matrix of coefficients,

in which the functions switch periodically and concurrently between the row and column directions.

20-22. (Cancelled)

23. (Currently amended) An apparatus implementing a two-dimensional inverse discrete cosine transform, comprising:

two one-dimensional inverse discrete cosine transform blocks;

a memory block;

a sequencer block, the sequencer block alternately being in a first [[to]] state to control a column direction of operation of both one-dimensional inverse discrete cosine transform, and

in a second state to control a row direction of operation of both one-dimensional inverse discrete cosine transform blocks; and

an address generator block which generates addresses for the one-dimensional inverse discrete cosine transform blocks in the direction indicated by the state of the sequencer.

24. (Cancelled)

25. (Previously presented) A computer system including a processor, comprising:

first and second one-dimensional inverse discrete cosine transform blocks;

a memory block;

a sequencer block, which alternates between a first state which controls both of said first and second one-dimensional inverse discrete cosine transform blocks to operate in a row direction, and a second state which controls both of said first and second one-dimensional inverse discrete cosine transform blocks to operate in a column direction, the sequencer block alternately being in one of two states, each state indicating the direction of operation of both one-dimensional inverse discrete cosine transform block; and

an address generator block which generates addresses for the one-dimensional inverse discrete cosine transform blocks in the direction indicated by the state of the sequencer.

26-27. (Cancelled)

28. (Previously presented) A method as in claim 15, wherein said second one-dimensional inverse discrete cosine transforming function and said third one-dimensional inverse discrete cosine transforming function occur concurrently in the same direction.